ABSTRACT

A reduced multicubic database interpolation method is provided. The interpolation method is designed to map a function and its associated argument into an interpolated value using a database of points. The database is searched to locate an interpolation cell that includes the function argument. The interpolation cell is used to transform the function argument to reflect translation of the interpolation cell to a unit cell. The interpolated value is then generated as a cubic function using the data points that correspond to vertices of the unit cell. All of the derivatives in the cubic function are simple and the interpolation accuracy order is higher than first-order.